



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/596,656

10/04/2006

Sebastien Bardon

Q95593

8871

23373 7590 05/11/2010
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

ORLANDO, AMBER ROSE

ART UNIT

PAPER NUMBER

1797

NOTIFICATION DATE

DELIVERY MODE

05/11/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

sughrue@sughrue.com
PPROCESSING@SUGHRUE.COM
USPTO@SUGHRUE.COM

Office Action Summary	Application No. 10/596,656	Applicant(s) BARDON ET AL.	
	Examiner AMBER ORLANDO	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to the correspondence filed 04/19/2010.

Claims 1-11 are cancelled.

Claims 12-35 are new.

Claims 12-35 are pending and have been examined.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/19/2010 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Art Unit: 1797

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al. WO03/048072 (translation provided by US 7,138,168) in view of Merriman US 2,952,579 and Adiletta US 5,228,891.

5. For claims 12, the Fujita et al. reference discloses a filtration structure of at a particulate filter for exhaust gases of an internal combustion engine of the type comprising; at least first and second filtration element (figures 1 a and b objects 2, 3, 7, 12 and 8), each filtration element being made of a ceramic material (column 6, lines 30-41) having an inlet face, a discharge face and lateral faces and comprising an assembly of adjacent inlet and outlet conduits separated by porous filtration walls extending from inlet face to the discharge face, the inlet conduits, open in the region of the inlet face and closed in the region of the discharge face, and the outlet conduits open in the

Art Unit: 1797

region of the discharge face and closed in the region of the inlet face, being arranged transposed (column 7, lines 27-49), one first lateral face of the first filtration element and one second lateral face of the second filtration element are arranged opposite each other (figure 2 object 12); a joint for connecting the faces which extends between the faces, this joint comprising a binding agent (figure 1b objects 12 and 8), characterized in that said binding agent is a ceramic cement (column 3, lines 55-56). The reference does not disclose the joint comprising reinforcement means, characterized in that the reinforcement means comprises at least one mesh-like reinforcement element which has independent coherence and which comprises at least one active portion which is generally of substantially planar form and embedded in said binding agent, the active portion being produced from a metal material constitutes preferred axis for propagation of the thermal flux within the joint.

6. The Merriman reference discloses the joint comprising reinforcement means, characterized in that the reinforcement means comprises at least one mesh-like reinforcement element which has independent coherence and which comprises at least one active portion which is generally of substantially planar form and embedded in said binding agent (claim 1).

7. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the joint comprising reinforcement means, characterized in that the reinforcement means comprises at least one mesh-like reinforcement element which has independent coherence and which comprises at least one active portion which is generally of

Art Unit: 1797

substantially planar form and embedded in said binding agent (Merriman claim 1) because this provides a reinforcing means for increasing the strength of the adhesive bond.

8. The Adiletta reference discloses the active portion being produced from a metal material (column 6, lines 19-31).

9. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference the active portion being produced from a metal material (Adiletta column 6, lines 19-31) and therefore would constitute preferred axis for propagation of the thermal flux within the joint because this allows the supporting material to withstand high temperatures that would be subjected to the DPF of Fujita et al. as it would be exposed to the extreme exhaust temperatures as well as filter regeneration temperatures. For claim 13, the Fujita et al. reference does not disclose that the active portion comprises a plurality of beams which are arranged substantially parallel with a first direction.

10. The Adiletta reference discloses the active portion comprises a plurality of beams which are arranged substantially parallel with a first direction (figure 3 object 59).

11. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference so that the active portion comprises a plurality of beams which are arranged substantially parallel with a first direction (Adiletta figure 3 object 59) because this provides support to the filtering element.

Art Unit: 1797

12. For claim 14, the Fujita et al. reference does not disclose the active portion comprises a plurality of cross-members which connect the beams and which are arranged substantially parallel with a second direction, distinct from the first direction.

13. The Adiletta reference discloses the active portion comprises a plurality of cross-members which connect the beams and which are arranged substantially parallel with a second direction, distinct from the first direction (figure 3 object 59).

14. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference so that the active portion comprises a plurality of cross-members which connect the beams and which are arranged substantially parallel with a second direction, distinct from the first direction (Adiletta figure 3 object 59) because this provides support to the filtering element.

15. For claim 15, the Fujita et al. reference does not disclose the total volume of the apertures delimited by the beams and the cross-members is greater than the total volume of the beams and the cross-members.

16. The Adiletta reference discloses the total volume of the apertures delimited by the beams and the cross-members is greater than the total volume of the beams and the cross-members (as can be easily seen figure 3 object 59).

17. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the total volume of the apertures delimited by the beams and the cross-members to be greater than the total volume of the beams and the cross-members (Adiletta figure 3 object 59) because this allows the filter to be supported and for the flow of air.

Art Unit: 1797

18. For claim 16, the Fujita et al. reference discloses the binding agent having an active portion opposite two adjacent faces of the filtration element, the active portions being connected to each other (figure 1b objects 12 and 8). The reference does not disclose the reinforcement element comprises an active portion opposite two adjacent faces of the filtration element, the active portions being connected to each other.

19. The Merriman reference discloses the reinforcement element comprising an active portion on two sides of the element (claim 1) being used within the binding agent. The reference does not disclose the reinforcement elements active portion being on two adjacent faces of the element and being connected to each other. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the reference to include the reinforcement elements active portion being on two adjacent faces of the element and being connected to each other (as done by the adhesive within the Fujita et al. reference) because this provides greater strength on all sides of the element.

20. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference so that the reinforcement element comprises an active portion opposite two adjacent faces of the filtration element, the active portions being connected to each other (Merriman claim 1) because provides a greater structural integrity to the adhesive and therefore the filter.

21. For claim 17/12-17/16 and 18, the Fujita reference discloses the structure comprises at least one cell which comprises four filtration elements, and a common reinforcement element 3), having a sinuous shape, for the filtration elements, the

Art Unit: 1797

common reinforcement element comprising at least three successive active portions which are arranged opposite adjacent faces of the filtration elements of the cell (figure 1b objects 12 and 8) and the at least first and second cells and a binding agent supporting between those cells (figure 1b objects 8 and 12). The reference does not disclose at least one active portion of the reinforcement element of the first cell being arranged opposite a face of a filtration element of the second cell.

22. The Merriman reference discloses the reinforcement element within the adhesive (claim 1).

23. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the reinforcement element (Merriman claim 1) because this provides a reinforcing means for increasing the strength of the adhesive bond.

24. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include at least first and second cells, at least one active portion of the reinforcement element of the first cell being arranged opposite a face of a filtration element of the second cell because by moving around the reinforcement element within the honeycomb, the best placement in order to maintain structural integrity of the structure while limiting costs can be found.

25. Claims 19, 25/19, 26, 27, 33, 34/27, 34/33 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al. WO03/048072 (translation provided by US 7,138,168) in view of Merriman US 2,952,579.

Art Unit: 1797

26. For claims 19, the Fujita et al. reference discloses a filtration structure of at a particulate filter for exhaust gases of an internal combustion engine of the type comprising; at least one first filtration element and at least two second filtration elements (figures 1 a and b objects 2, 3, 7, 12 and 8), each filtration element being made of a ceramic material (column 6, lines 30-41) having an inlet face, a discharge face and lateral faces and comprising an assembly of adjacent inlet and outlet conduits separated by porous filtration walls extending from inlet face to the discharge face, the inlet conduits, open in the region of the inlet face and closed in the region of the discharge face, and the outlet conduits open in the region of the discharge face and closed in the region of the inlet face, being arranged transposed (column 7, lines 27-49), a lateral face of each one of said at least two second filtration elements being arranged opposite to a lateral face of said at least one filtration element (figure 2 object 12 and figure 1b objects 12 and 8); a joint for connecting the faces which extends between the faces, this joint comprising a binding agent (figure 1b objects 12 and 8), characterized in that said binding agent is a ceramic cement (column 3, lines 55-56) and the binding agent having an active portion opposite two adjacent faces of the filtration element, the active portions being connected to each other (figure 1b objects 12 and 8). The reference does not disclose the joint comprising reinforcement means, characterized in that the reinforcement means comprises at least one mesh-like reinforcement element which has independent coherence and which comprises at least one active portion which is generally of substantially planar form and embedded in said binding agent and in that the reinforcement element comprises active portions opposite two adjacent

Art Unit: 1797

lateral faces of said at least first filtration element, the active portions being connected to each other.

27. The Merriman reference discloses the joint comprising reinforcement means, characterized in that the reinforcement means comprises at least one mesh-like reinforcement element which has independent coherence, which comprises at least one active portion which is generally of substantially planar form and embedded in said binding agent (claim 1) and the reinforcement element comprising an active portion on two sides of the element (claim 1) being used within the binding agent. The reference does not disclose the reinforcement elements active portion being on two adjacent faces of the element and being connected to each other. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the reference to include the reinforcement elements active portion being on two adjacent faces of the element and being connected to each other (as done by the adhesive within the Fujita et al. reference) because this provides greater strength on all sides of the element.

28. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the joint comprising reinforcement means, characterized in that the reinforcement means comprises at least one mesh-like reinforcement element which has independent coherence and which comprises at least one active portion which is generally of substantially planar form and embedded in said binding agent (Merriman claim 1) and the reinforcement element comprises an active portion opposite two adjacent faces of

Art Unit: 1797

the filtration element, the active portions being connected to each other (Merriman claim

1) because this provides a reinforcing means for increasing the strength of the adhesive bond and therefore also increasing the overall strength of the filter.

29. For claims 25/19 and 26, the Fujita reference discloses the structure comprises at least one cell which comprises four filtration elements, and a common reinforcement element 3), having a sinuous shape, for the filtration elements, the common reinforcement element comprising at least three successive active portions which are arranged opposite adjacent faces of the filtration elements of the cell (figure 1b objects 12 and 8) and the at least first and second cells and a binding agent supporting between those cells (figure 1b objects 8 and 12). The reference does not disclose at least one active portion of the reinforcement element of the first cell being arranged opposite a face of a filtration element of the second cell.

30. The Merriman reference discloses the reinforcement element within the adhesive (claim 1).

31. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the reinforcement element (Merriman claim 1) because this provides a reinforcing means for increasing the strength of the adhesive bond.

32. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include at least first and second cells, at least one active portion of the reinforcement element of the first cell being arranged opposite a face of a filtration element of the second cell because by

Art Unit: 1797

moving around the reinforcement element within the honeycomb, the best placement in order to maintain structural integrity of the structure while limiting costs can be found.

33. For claims 27, the Fujita et al. reference discloses a filtration structure of at a particulate filter for exhaust gases of an internal combustion engine of the type comprising; at least first and second filtration element (figures 1 a and b objects 2, 3, 7, 12 and 8), each filtration element being made of a ceramic material (column 6, lines 30-41) having an inlet face, a discharge face and lateral faces and comprising an assembly of adjacent inlet and outlet conduits separated by porous filtration walls extending from inlet face to the discharge face, the inlet conduits, open in the region of the inlet face and closed in the region of the discharge face, and the outlet conduits open in the region of the discharge face and closed in the region of the inlet face, being arranged transposed (column 7, lines 27-49); a joint for connecting the faces which extends between the faces, this joint comprising a binding agent (figure 1b objects 12 and 8), characterized in that said binding agent is a ceramic cement (column 3, lines 55-56) the filtration structure being capable of withstanding a multitude of regeneration phases whilst retaining its mechanical strength and sealing with respect of the soot. The reference does not disclose the joint comprising reinforcement means, characterized in that the reinforcement means comprises at least one mesh-like reinforcement element which has independent coherence and which comprises at least one active portion which is generally of substantially planar form and embedded in said binding agent.

34. The Merriman reference the joint comprising reinforcement means, characterized in that the reinforcement means comprises at least one mesh-like reinforcement

Art Unit: 1797

element which has independent coherence and which comprises at least one active portion which is generally of substantially planar form and embedded in said binding agent (claim 1).

35. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the joint comprising reinforcement means, characterized in that the reinforcement means comprises at least one mesh-like reinforcement element which has independent coherence and which comprises at least one active portion which is generally of substantially planar form and embedded in said binding agent (Merriman claim 1) because this provides a reinforcing means for increasing the strength of the adhesive bond.

36. For claim 33, the Fujita et al. reference discloses the binding agent having an active portion opposite two adjacent faces of the filtration element, the active portions being connected to each other (figure 1b objects 12 and 8). The reference does not disclose the reinforcement element comprises an active portion opposite two adjacent faces of the filtration element, the active portions being connected to each other.

37. The Merriman reference discloses the reinforcement element comprising an active portion on two sides of the element (claim 1) being used within the binding agent. The reference does not disclose the reinforcement elements active portion being on two adjacent faces of the element and being connected to each other. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the reference to include the reinforcement elements active portion being

Art Unit: 1797

on two adjacent faces of the element and being connected to each other (as done by the adhesive within the Fujita et al. reference) because this provides greater strength on all sides of the element.

38. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference so that the reinforcement element comprises an active portion opposite two adjacent faces of the filtration element, the active portions being connected to each other (Merriman claim 1) because it provides a greater structural integrity to the adhesive and therefore the filter.

39. For claim 34/27, 34/33 and 35, the Fujita reference discloses the structure comprises at least one cell which comprises four filtration elements, and a common reinforcement element 3), having a sinuous shape, for the filtration elements, the common reinforcement element comprising at least three successive active portions which are arranged opposite adjacent faces of the filtration elements of the cell (figure 1b objects 12 and 8) and the at least first and second cells and a binding agent supporting between those cells (figure 1b objects 8 and 12). The reference does not disclose at least one active portion of the reinforcement element of the first cell being arranged opposite a face of a filtration element of the second cell.

40. The Merriman reference discloses the reinforcement element within the adhesive (claim 1).

41. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the

Art Unit: 1797

reinforcement element (Merriman claim 1) because this provides a reinforcing means for increasing the strength of the adhesive bond.

42. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include at least first and second cells, at least one active portion of the reinforcement element of the first cell being arranged opposite a face of a filtration element of the second cell because by moving around the reinforcement element within the honeycomb, the best placement in order to maintain structural integrity of the structure while limiting costs can be found.

43. Claims 20-24, 25/20-25/24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al. WO03/048072 (translation provided by US 7,138,168) and US 2,952,579 as applied in claim 19 above and further in view of Adiletta US 5,228,891.

44. For claim 20, the Fujita et al. reference does not disclose the active portion comprises a plurality of beams which are arranged substantially parallel with a first direction.

45. The Adiletta reference discloses the active portion comprises a plurality of beams which are arranged substantially parallel with a first direction (figure 3 object 59).

46. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the active portion comprises a plurality of beams which are arranged substantially parallel with a first direction (Adiletta figure 3 object 59) because this provides support to the filtering element.

Art Unit: 1797

47. For claim 21, the Fujita et al. reference does not disclose the active portion comprises a plurality of cross-members which connect the beams and which are arranged substantially parallel with a second direction, distinct from the first direction.

48. The Adiletta reference discloses the active portion comprises a plurality of cross-members which connect the beams and which are arranged substantially parallel with a second direction, distinct from the first direction (figure 3 object 59).

49. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the active portion comprises a plurality of cross-members which connect the beams and which are arranged substantially parallel with a second direction, distinct from the first direction (Adiletta figure 3 object 59) because this provides support to the filtering element.

50. For claim 22, the Fujita et al. reference does not disclose the total volume of the apertures delimited by the beams and the cross-members is greater than the total volume of the beams and the cross-members.

51. The Adiletta reference discloses the total volume of the apertures delimited by the beams and the cross-members is greater than the total volume of the beams and the cross-members (as can be easily seen figure 3 object 59).

52. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the total volume of the apertures delimited by the beams and the cross-members to be greater than the total volume of the beams and the cross-members (Adiletta figure 3 object 59) because this allows the filter to be supported and for the flow of air.

Art Unit: 1797

53. For claims 23 and 24, the Fujita et al. reference does not disclose the reinforcement element is produced from a metal material and the reinforcement element is produced from a material which degrades at temperatures greater than 150°C.

54. The Adiletta reference discloses the reinforcement element is produced from a metal material and the reinforcement element is produced from a material which degrades at temperatures greater than 150°C (column 6, lines 19-31).

55. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the reinforcement element is produced from a metal material and the reinforcement element is produced from a material which degrades at temperatures greater than 150°C (Adiletta column 6, lines 19-31) because this allows the supporting material to withstand high temperatures.

56. For claims 25/20-25/24 and 26, the Fujita reference discloses the structure comprises at least one cell which comprises four filtration elements, and a common reinforcement element 3), having a sinuous shape, for the filtration elements, the common reinforcement element comprising at least three successive active portions which are arranged opposite adjacent faces of the filtration elements of the cell (figure 1b objects 12 and 8) and the at least first and second cells and a binding agent supporting between those cells (figure 1b objects 8 and 12). The reference does not disclose at least one active portion of the reinforcement element of the first cell being arranged opposite a face of a filtration element of the second cell.

Art Unit: 1797

57. The Merriman reference discloses the reinforcement element within the adhesive (claim 1).

58. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the reinforcement element (Merriman claim 1) because this provides a reinforcing means for increasing the strength of the adhesive bond.

59. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include at least first and second cells, at least one active portion of the reinforcement element of the first cell being arranged opposite a face of a filtration element of the second cell because by moving around the reinforcement element within the honeycomb, the best placement in order to maintain structural integrity of the structure while limiting costs can be found.

60. Claims 28-32, 34/28-34/32 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al. WO03/048072 (translation provided by US 7,138,168) and US 2,952,579 as applied in claim 27 above and further in view of Adiletta US 5,228,891.

61. For claim 28, the Fujita et al. reference does not disclose the active portion comprises a plurality of beams which are arranged substantially parallel with a first direction.

62. The Adiletta reference discloses the active portion comprises a plurality of beams which are arranged substantially parallel with a first direction (figure 3 object 59).

Art Unit: 1797

63. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the active portion comprises a plurality of beams which are arranged substantially parallel with a first direction (Adiletta figure 3 object 59) because this provides support to the filtering element.

64. For claim 29, the Fujita et al. reference does not disclose the active portion comprises a plurality of cross-members which connect the beams and which are arranged substantially parallel with a second direction, distinct from the first direction.

65. The Adiletta reference discloses the active portion comprises a plurality of cross-members which connect the beams and which are arranged substantially parallel with a second direction, distinct from the first direction (figure 3 object 59).

66. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the active portion comprises a plurality of cross-members which connect the beams and which are arranged substantially parallel with a second direction, distinct from the first direction (Adiletta figure 3 object 59) because this provides support to the filtering element.

67. For claim 30, the Fujita et al. reference does not disclose the total volume of the apertures delimited by the beams and the cross-members is greater than the total volume of the beams and the cross-members.

68. The Adiletta reference discloses the total volume of the apertures delimited by the beams and the cross-members is greater than the total volume of the beams and the cross-members (as can be easily seen figure 3 object 59).

Art Unit: 1797

69. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the total volume of the apertures delimited by the beams and the cross-members to be greater than the total volume of the beams and the cross-members (Adiletta figure 3 object 59) because this allows the filter to be supported and for the flow of air.

70. For claims 31 and 32, the Fujita et al. reference does not disclose the reinforcement element is produced from a metal material and the reinforcement element is produced from a material which degrades at temperatures greater than 150°C.

71. The Adiletta reference discloses the reinforcement element is produced from a metal material and the reinforcement element is produced from a material which degrades at temperatures greater than 150°C (column 6, lines 19-31).

72. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the reinforcement element is produced from a metal material and the reinforcement element is produced from a material which degrades at temperatures greater than 150°C (Adiletta column 6, lines 19-31) because this allows the supporting material to withstand high temperatures.

73. For claim 34/28-34/32 and 26, the Fujita reference discloses the structure comprises at least one cell which comprises four filtration elements, and a common reinforcement element 3), having a sinuous shape, for the filtration elements, the common reinforcement element comprising at least three successive active portions which are arranged opposite adjacent faces of the filtration elements of the cell (figure

Art Unit: 1797

1b objects 12 and 8) and the at least first and second cells and a binding agent supporting between those cells (figure 1b objects 8 and 12). The reference does not disclose at least one active portion of the reinforcement element of the first cell being arranged opposite a face of a filtration element of the second cell.

74. The Merriman reference discloses the reinforcement element within the adhesive (claim 1).

75. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the reinforcement element (Merriman claim 1) because this provides a reinforcing means for increasing the strength of the adhesive bond.

76. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include at least first and second cells, at least one active portion of the reinforcement element of the first cell being arranged opposite a face of a filtration element of the second cell because by moving around the reinforcement element within the honeycomb, the best placement in order to maintain structural integrity of the structure while limiting costs can be found.

Response to Arguments

77. Applicant's arguments filed 04/19/2010 have been fully considered but they are not persuasive.

Art Unit: 1797

78. For claim 12, the applicant contends “The fabric adhesive-carrier 11 disclosed in Merriman is not made of a metal but of glass fiber threads 12. This carrier is not capable of "constituting preferred axis for propagation of thermal fluxes within a joint", contrary to the mesh-like reinforcing element of the claimed structure, as stated on page 9 of the specification.”

79. The applicant fails to take into account the that filtration structure having a mesh-like reinforcement element being produced from a metal material is disclosed by the combination of the Fujita et al., Merriman, and Adiletta references. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

80. The applicant contends “The arrangement made of a filter 57 maintained between two support screen 59 disclosed in Adiletta is located between a set of inlet cells and a set of discharge cells. This particular location corresponds to what is called a filtration wall 26 in the present patent application. But, in the meaning of the present patent application, a filtration element is an assembly of inlet and outlet conduits. Thus, Adiletta fails to disclose a reinforcement means between two filtration elements. iii) Moreover, Adiletta fails to disclose that the support screen 59 is embedded into a binding agent for forming a joint. The skilled person when considering Adiletta would have received no incentive to embed the support screen into a binding agent for forming a joint connecting two filtration elements.”

Art Unit: 1797

81. The applicant fails to take into account that a reinforcement means (produced from a metal material) between two filtration elements and the support screen being embedded into a bonding agent for forming a joint is disclosed by the combination of the Fujita et al., Merriman, and Adiletta references. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Furthermore the examiner disagrees with the argument that there is no incentive to embed the support screen into a binding agent. The Merriman reference discloses the joint comprising reinforcement means, characterized in that the reinforcement means comprises at least one mesh-like reinforcement element which has independent coherence and which comprises at least one active portion which is generally of substantially planar form and embedded in said binding agent (claim 1).

82. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the joint comprising reinforcement means, characterized in that the reinforcement means comprises at least one mesh-like reinforcement element which has independent coherence and which comprises at least one active portion which is generally of substantially planar form and embedded in said binding agent (Merriman claim 1) because this provides a reinforcing means for increasing the strength of the adhesive bond.

Art Unit: 1797

83. For claim 19, the applicant argues “neither Adiletta nor Merriman discloses reinforcement means extending in different planes in order its active portions be opposite to adjacent lateral faces of the same filtration element. In the arrangements according to these two prior art documents, the means considered by the Examiner as reinforcement means are in face laying in parallel planes. Nothing in these prior art documents teaches the skilled person to cover several adjacent faces, in particular perpendicular faces, of the filtration element with such a reinforcement means.”

84. The examiner disagrees. The Fujita et al. reference discloses the binding agent having an active portion opposite two adjacent faces of the filtration element, the active portions being connected to each other (figure 1b objects 12 and 8). The reference does not disclose the reinforcement element comprises an active portion opposite two adjacent faces of the filtration element, the active portions being connected to each other.

85. The Merriman reference discloses the reinforcement element comprising an active portion on two sides of the element (claim 1) being used within the binding agent. The reference does not disclose the reinforcement elements active portion being on two adjacent faces of the element and being connected to each other. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the reference to include the reinforcement elements active portion being on two adjacent faces of the element and being connected to each other (as done by the adhesive within the Fujita et al. reference) because this provides greater strength on all sides of the element.

Art Unit: 1797

86. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fujita et al. reference to include the reinforcement element comprises an active portion opposite two adjacent faces of the filtration element, the active portions being connected to each other (Merriman claim 1) because provides a greater structural integrity to the adhesive and therefore the filter.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMBER ORLANDO whose telephone number is (571)270-3149. The examiner can normally be reached on Mon.-Thurs. (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on (571) 272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1797

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AO

/Walter D. Griffin/
Supervisory Patent Examiner, Art Unit 1797